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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,450	11/21/2003	Jack Wang	OP-092000265	8071

7590 09/28/2004

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EXAMINER

WALBERG, TERESA J

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,450

Applicant(s)

WANG ET AL.

Examiner

Teresa J. Walberg

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, and 8 are rejected under 103(a) as being unpatentable over Lo (6,370,024) in view of Lofland et al (6,625,021) and Skofljanec (6,788,539).

Lo discloses a heat dissipating device including a heat sink having a base with a top surface, two T-shaped slots (Figs. 2 and 3) formed at two opposing ends of the top surface, and a fastening structure having a pair of brackets to be engaged with the base at the T-shape slots, wherein each of the brackets (Fig. 1) includes a planar plate (33) having at least one through hole (34), a T-shape arm (31, 35) attached to one end of the planar plate (33), and the T-shape arm being inserted into the T-shape slot (Fig. 3).

Lo does not show the T-shape arm being connected to the planar plate by a hinge of the planar plate extending horizontally at a level lower than the top surface of the base.

Lofland et al teaches a securing means for a heat sink and discloses attaching a T-shaped securing arm to the adjoining structure by use of a hinge (70,80).

It would have been obvious in view of Lofland et al to use a hinge structure to secure the T-shaped arm of Lo to the planar plate to reduce stress on the metal securing members.

Skofljanec discloses (see Fig. 1) mounting structure for electronic components including a mounting plate (34) having a horizontally extending planar plate (36) at a level lower than a top surface of the base (28) and shows the horizontal plate having two holes (36) for use in attaching the structure to a base.

It would have been obvious in view of Skofljanec to provide a horizontally extending planar plate in the mounting structure of Lo to enable easier connection of the heat sink structure to the underlying surface.

3. Claim 3 is rejected under 103(a) as being unpatentable over Lo (6,370,024) in view of Lofland et al (6,625,021) and Skofljanec (6,788,539) as applied to claims 1, 2, 4, and 8 above and further in view of Hsu (6,382,306).

Lo in view of Lofland et al and Skofljanec disclose the claimed structure with the exception of each fin having a notch at a bottom edge thereof, the notch being conformal to a cross section of the base.

Hsu (see Figs. 2 and 7) discloses a heat sink structure wherein each fin has a notch at a bottom edge thereof and the notch is conformal to a cross section of the base.

It would have been obvious in view of Hsu to use a heat sink structure wherein each fin has a notch at a bottom edge thereof and the notch is conformal to a cross section of the base in the heat dissipating device of Lo in view of Lofland et al and Skofljanec for more effective transfer of heat from the circuit component.

4. Claims 5-7 are rejected under 103(a) as being unpatentable over Lo (6,370,024) in view of Lofland et al (6,625,021) and Skofljanec (6,788,539) as applied to claims 1, 2, 4, and 8 above and further in view of Gonsalves (6,212,074).

Lo in view of Lofland et al and Skofljanec disclose the claimed structure with the exception of the fasteners including a screw and a screw nut with a spring resilient member.

Gonsalves (see Fig. 1) discloses a heat sink structure having fasteners including a screw (60-1, 60-2) and a screw nut (65-1, 65-2) with a spring resilient member (61-1, 62-2).

It would have been obvious in view of Gonsalves to use fasteners including a screw and a screw nut with a spring resilient member with the heat dissipating device of Lo in view of Lofland et al and Skofljanec to securely but flexibly hold the heat sink components in place.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 3742

Wyler et al is cited as showing T-shape slots and brackets. See Figs. 13 and 14.

Yu, Chen, Bosak III et al, Lin et al, Hsin et al, and Cohen are cited to show heat sinks with mounting structures.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 703-308-1327. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 703-305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Teresa J. Walberg
Primary Examiner
Art Unit 3742

tjw